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26M2/0915

EXAMINER
L 10369900100 MALINOWSKI, W

ART UNIT	PAPER NUMBER
2609	10

DATE MAILED: 09/15/94

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-26 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-26 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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1. The examiner notes that claim 22 depends on claim 11 (rather than on claim 12 or a claim depending from claim 12), claim 24 depends on claim 21 (rather than on claim 23), and claim 26 depends on claim 23 (rather than on claim 25). It appears that this was not the intent of the applicant in light of the 35 U.S.C. 112 Second and Fourth Paragraph errors below.

2. The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feedback means for generating force must be shown for claims 11 and 22 or the feature cancelled from the claim. No new matter should be entered.

3. Claim 24 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24, lines 1-2. The phrase "said remote control unit" lacks an antecedent basis and so is unclear.

4. Claim 22 is rejected under 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form for failing to further limit the subject matter of a previous claim.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or

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on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 7, 8, 10, 12-15, 18, 19, and 21 are rejected under 35 U.S.C. § 102(b) as being anticipated by Davies, U.S. Patent No. 4,593,470.

Davies teaches a device (fig. 3) for use in conjunction with a computer display apparatus (col. 1, lines 11-21) and a fixed surface 52. Davies teaches means supportable on a fixed surface (fig. 3) for supporting a stylus 84 and 86 while allowing at least a plurality of degrees of freedom in the motion of the stylus (col. 4, lines 8-12). Davies also teaches that the stylus to determine the position of the pencil shaped or stylus shaped member's tip 38 (col. 4, lines 18-39). Davies teaches (col. 4, line 48, through col. 5, line 17) that the supporting means is a mechanical linkage of at least three individual components 60, 68, 70, and 80 and at least three joints 62, 72, and 76. Davies teaches (col. 4, lines 18-39) that the stylus locative signal means is in communication with the stylus.

7. Claims 23, 25, and 26 are rejected under 35 U.S.C. § 102(b) as being anticipated by IBM Technical Disclosure Bulletin, "Foot-Operated Mouse", Vol. 28, No. 11, April 1986, page 4763.

IBM teaches a foot-operated mouse which has a switch that has either of two states. "One embodiment employs a foot pedal with stable position corresponding to 'no pointing' and four unstable positions corresponding to the four different cursor

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motion positions: up, down, right, and left" (fourth paragraph).
"This arrangement can be extended by using a second foot pedal to provide programmable functions -- 'Select', for example" (sixth paragraph). IBM teaches a foot pedal as a form of foot-operated mouse which, in turn, is a remote control unit.

8. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

9. Claims 5, 6, 16, 17, and 24 are rejected under 35 U.S.C. § 103 as being unpatentable over Davies as applied to claims 1, 12, and 21 above, and further in view of IBM Technical Disclosure Bulletin, "Foot-Operated Mouse", Vol. 28, No. 11, April 1986, page 4763.

Davies teaches a device and method for use in conjunction with a computer display apparatus and a fixed surface. Davies

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does not teach a remote unit that has an on/off switch and generates a command signal when in its on state.

IBM teaches a foot-operated mouse which has a switch that has either of two states. "One embodiment employs a foot pedal with stable position corresponding to 'no pointing' and four unstable positions corresponding to the four different cursor motion positions: up, down, right, and left" (fourth paragraph). "This arrangement can be extended by using a second foot pedal to provide programmable functions -- 'Select', for example" (sixth paragraph).

As to claims 5 and 16, it would have been obvious to have used a remote unit that has an on/off switch and generates a command in its on state, as taught by IBM, in the device of Davies, to permit an operator, in general, greater freedom in the use of his or her hands and, specifically, "to keep physical keyboard reference and resume typing after using the foot-operated mouse to point" (third paragraph).

As to claims 6, 17, and 24, IBM teaches a foot pedal as a form of foot-operated mouse which, in turn, is a remote control unit.

10. Claims 9 and 20 are rejected under 35 U.S.C. § 103 as being unpatentable over Davies as applied to claims 1 and 12 above, and further in view of Duimel, U.S. Patent No. 4,879,556.

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Davies teaches a device and method for use in conjunction with a computer display apparatus and a fixed surface. No mechanical joint is completely frictionless, so actually there is some inherent resistance to motion in the mechanical linkage system of Davies. However, Davies does not specifically teach that resistance is provided to the motion of the stylus.

Duimel teaches the controlling of the motion of an input device through the use of springs (col. 4, lines 25-45).

As to claims 9 and 20, it would have been obvious to have used springs for controlling motion of an input device, as taught by Duimel, in the device of Davies, to allow a greater number of degrees of freedom of movement (col. 1, lines 45-60) and greater linearity in response so as to lead to higher precision (col. 1, lines 35-44).

11. Claims 11 and 22 are rejected under 35 U.S.C. § 103 as being unpatentable over Davies as applied to claim 1 above, and further in view of Fisher et al., "Virtual Environment Display System", October 23-24, 1986, all pages.

Davies teaches a device and method for use in conjunction with a computer display apparatus and a fixed surface. However Davies does not teach feedback means.

Fisher teaches (fig. 11 and paragraph immediately below it) that feedback means for generating force in response to force signals is well known. Force feedback means allow the operator

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to "pick up and manipulate virtual objects that appear in the surrounding virtual environment" (fig. 9 and text above fig. 9).

It would have been obvious to have used the force feedback means, taught by Fisher, in the device of Davies, to allow a user to "virtually explore a 360-degree synthesized or remotely sensed environment and ... viscerally interact with its components" (abstract).

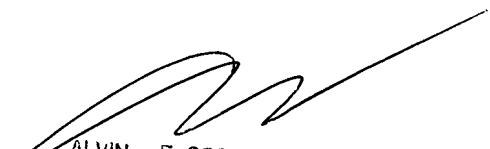
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Herrington et al., U.S. Patent No. 4,654,648, teaches a wireless stylus that has its position determined through acoustics.

Kramer, U.S. Patent No. 5,184,319, teaches the use of feedback forces.

Openiano, U.S. Patent No. 5,139,261, teaches foot operated switches.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter J. Malinowski whose telephone number is (703) 308-6736.


ALVIN E. OBERLEY
SUPERVISORY PATENT EXAMINER
ART UNIT 2609

wjm WJM
August 8, 1994